careers in

LOGISTICS

Air Traffic Controllers

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Job Overview

Air Traffic Controllers are responsible for 200,000 aircraft each day. They direct air traffic flow according to established procedures that ensure flight safety. They authorize, regulate, and control commercial airline flights following federal government regulations.

Nearly all civilian Air Traffic Controllers work for the Federal Aviation Administration (FAA). They work in one of three specialties: Airport Tower or Terminal Controllers, En Route Controllers, and Flight Service Specialists.

Airport Tower or Terminal Controllers use radar and visual observation to regulate a single airport's traffic. During arrival and departure, several Controllers direct each plane. They communicate with pilots by radio as they give permission to take off and land. They also direct ground traffic, which includes taxiing aircraft, vehicles, and airport workers. Once planes leave their assigned airspace, they transfer control of the aircraft to an En Route Controller.

En Route Controllers regulate flights between airports. They contact pilots by radio and control their position in the airways between tower jurisdictions. Using radar and computer equipment, they maintain a progressive check on aircraft and issue instructions, clearance, and advice. When an aircraft leaves the airspace assigned to an en route center, control passes on to the next center or to a Tower Controller. When pilots are lost or experiencing difficulty, the center provides orientation instructions and directions to the nearest emergency landing field. En Route Controllers work in teams of two or three.

Flight Service Specialists are experts on the terrain, airports, and navigational facilities in their areas. Pilots file their flight plans with Flight Service Specialists who conduct preflight briefings on weather conditions, suggested routes, altitudes, indications of turbulence, and other flight safety information. They often use direction-finding equipment to provide special assistance to search and rescue operations.

Typical Tasks

- Compile information about flights from flight plans, pilot reports, radar, and observations.
- Organize flight plans and traffic management plans to prepare for planes about to enter assigned airspace.

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- Relay air traffic information to control centers such as courses, altitudes, and expected arrival times.
- Provide flight path changes or directions to emergency landing fields for pilots traveling in bad weather or in emergency situations.
- Transfer control of departing flights to traffic control centers and accept control of arriving flights.
- Inspect, adjust, and control radio equipment and airport lights.
- Complete daily activity reports and keep records of messages from aircraft.
- Initiate and coordinate searches for missing aircraft.

*Detailed descriptions of this occupation may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.*

Important Skills, Knowledge, and Abilities

- Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- Coordination — Adjusting actions in relation to others' actions.
- Operation and Control — Controlling operations of equipment or systems.
- Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.
- Transportation — Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.
- Telecommunications — Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.
- English Language — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- Physics — Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and subatomic structures and processes.
- Speech Clarity — The ability to speak clearly so others can understand you.
- Written Comprehension — The ability to read and understand information and ideas presented in writing.

Work Environment

Working as an Air Traffic Controller is an extremely stressful job. Air Traffic Controllers must be skilled at monitoring multiple aircraft simultaneously and communicating with more than one pilot at once. They must be able to concentrate for long periods of time, to work under tremendous pressure, and to make fast and accurate decisions. Any error could lead to catastrophic results.

Airport Tower or Terminal Controllers almost always work in small rooms at the top of airport towers. Airport towers, en route centers, and flight service stations are usually fully air-conditioned. Rooms in flight centers are large and dimly lit for proper viewing of the many radar screens arranged in tiers and rows.

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Air Traffic Controllers usually work a standard 40-hour week, but may work some overtime. Since most control towers and centers operate around the clock, Air Traffic Controllers work rotating night and weekend shifts.

Flight Service Specialists may join the National Association of Air Traffic Specialists, while the National Air Traffic Controllers Association (NATCA) represents Airport Tower or Terminal Controllers and En Route Controllers.

California's Job Outlook and Wages

Air Traffic Controllers earn relatively high pay and have better job security than most workers, as long as they meet the proficiency and medical requirements of the job. Although their workloads decrease during economic downturns, they are rarely laid off.

Strong competition exists for FAA training programs as demand for training is greater than space available. Those who graduate have good chances of finding employment as a Controller.

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2004	Estimated Number of Workers 2014	Average Annual Openings	2006 Wage Range (per hour)
Air Traffic Controllers				
53-2021	2,200	2,600	100	$41.39 to $67.08

Wages do not reflect self-employment.
***Average annual openings** include new jobs plus net replacements.*
Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

Employment of Air Traffic Controllers is expected to grow faster than average compared with all occupations between the years 2004 and 2014. In addition, large numbers of Air Traffic Controllers will be eligible to retire over the next decade, potentially creating many more job openings. New computerized systems are automating many of the Controller's routine tasks, which will allow Controllers to handle more traffic. In the future, Federal budget constraints may limit hiring of Air Traffic Controllers.

Training/Requirements/Apprenticeships

Applicants for Air Traffic Controller positions must pass an exam. In addition, they are required to have three years of general experience, four years of college, or a combination of experience and education. The federal General Schedule (GS) rating assigned to new Controllers is determined by their score on the qualifying test, their college academic standing, and any specialized aviation experience they may have. College graduates with civilian or military experience as Controllers, Navigators, or Pilots will have the best chance for appointment.

The FAA has established a maximum age of 30 at the time of appointment for tower and center candidates. Applicants must be a U.S. citizen. They are required to pass a rigid medical exam, pre-employment drug testing, and obtain a security clearance prior to employment. Candidates

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need excellent vision and hearing, as well as the ability to speak English clearly to be understood over radios and other communications equipment. Controllers must pass an annual physical, a semiannual job proficiency exam, and undergo random drug and/or alcohol testing as a condition of continuing employment.

Once appointed, new recruits receive training at the FAA Aeronautical Center in Oklahoma City, Oklahoma. Formalized classroom and on-the-job training continues at their assigned facility until the Controller reaches journey-level status. Journey-level achievement varies from facility to facility. Most Controllers reach journey-level in two to three years.

Recommended High School Course Work

High school students interested in this type of work should take coursework in English, physics, mathematics, computer science, and electronics.

Where Do I Find the Job?

Most civilian Controllers work for the FAA. Candidates can search job openings and apply on-line through the U.S. Office of Personnel Management Web site at www.usajobs.opm.gov. Job seekers should view the Air Traffic Controller Announcement, the Qualifications Information Statement for Air Traffic Control Specialist Positions, and a list of test locations.

The Western Regional Headquarters of the FAA is located in Los Angeles and is responsible for coordinating all military and civilian air traffic in California, Nevada, and Arizona.

Where Can the Job Lead?

An Air Traffic Controller may be promoted to supervisory or management positions. The FAA has a policy of promoting from within when filling higher level Air Traffic Controller positions. Many of the FAA's key officials began their service as Air Traffic Controllers.

Related Occupations
Aircraft Pilots (see Logistics Profile)
Aircraft Pilots and Flight Engineers (see Logistics Profile)
Airfield Operations Specialists (see Logistics Profile)
Meteorologists (see *Occupational Guide No. 200*)

Other Sources

Air Traffic Control Association (ATCA)
www.atca.org

Federal Aviation Administration (FAA)
www.faa.gov

FAA Air Traffic Division
www.ama500.jccbi.gov

National Air Traffic Controllers Association (NATCA)
www.natca.org

National Association of Air Traffic Specialists (NAATS)
www.naats.org

USAJOBS
www.usajobs.opm.gov